

REMARKS

The above amendments and these remarks are responsive to the Office action mailed September 6, 2005. With entry of this amendment, Claims 1-8, 10-14, and 16-25 are pending. Claims 1-8, 10, 17-20 and 22-25 are allowed. Claims 2-10, 11, 12 and 21 have been amended. No new matter has been added by these amendments.

Applicants thank the Examiner for carefully considering the subject application. In the Office action, claims 11-14, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Guerin et al. (EP 1174595 A1). Claim 16 is rejected under 35 U.S.C. 103(a) as being obvious over Guerin et al. Claims 1-8, 10, 17-20, and 22-25 are allowed. The Office action also comments that dependent claims 2-8 should refer back to a system and not an actuator.

Applicants respectfully traverse the rejection, but nevertheless amend the claims as indicated above. In view of the remarks below, and the amendments above, Applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111 and allowance of the pending claims.

Comments on Claims 2-8

Applicants have amended claims 2-8 to refer to a system.

Claims 11-14

Claims 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Guerin et al. Applicants respectfully traverse the rejection. Nevertheless, Applicants have amended claims 11 and 12 to facilitate prosecution.

Claim 11 now recites "said air gap is wholly contained in the core and configured to reduce flux leakage."

In contrast, as shown by Figure 3 of Guerin et al., no air gap is contained in the polar parts 65 and 67. Furthermore, Guerin et al. does not recognize the ability of an air gap to reduce the flux leakage. Thus, Guerin et al. fails to disclose all the limitation of claims 11-14.

Further, claim 12 recites "an axis of said would coil is parallel to the movement of said armature."

In contrast, Figure 3 of Guerin et al. shows that the axis of coils 63 and 64 are not parallel to the movement of armature 81. Thus, Guerin et al. fails to disclose all the limitations of claim 12.

Applicants respectfully request the rejections for claims 11-14 be withdrawn.

Claim 16

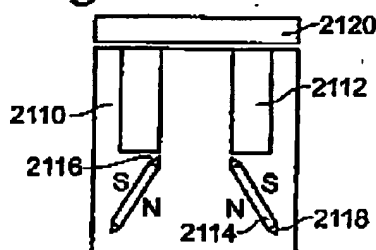
Claim 16 is rejected under 35 U.S.C. 103(a) as being obvious over Guerin et al. Claim 16 is dependent on claim 11. For the reason cited above, Guerin et al. does not include all the limitations of claim 16 such as air gap, etc.

In addition, Applicants respectfully submit that there is a lack of any evidence to support the conclusion that the inclusion of multiple layers of magnet material in the core is obvious. Thus, Applicants respectfully request the rejection be withdrawn.

Claim 21

Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Guerin et al. Applicants respectfully traverse the rejection but nevertheless have amended claim 21 facilitate prosecution.

Claim 21 now recites “a first end of said permanent magnet being located closer to said coil than a second end of said permanent magnet, where said first end of said permanent magnet is closer to a center of said core than said second end of said permanent magnet and wherein said permanent magnet is located outside the center of said core.” Figure 21 of the present application as reproduced below shows one embodiment of an actuator described by claim 21. In this embodiment, the upper end of permanent magnet 2114 is closer to coil 2112 and closer to the center of core 2110 than the lower end of permanent magnet 2114. In addition, permanent magnet 2114 is located outside the center of core 2110. Such a configuration is beneficial in that it can provide increased internal area for a through-shaft. In other words, because magnet 2114 has a cross section that avoids having a center area in the center of the core 2110, more area is available for the coil and/or shaft. See page 21 of the specification.

Fig. 21

In contrast, Figure 3 of Guerin et al. shows that the permanent magnets 69 and 70 pass through the center of coils 63 and 64, respectively. Thus, Guerin et al. fails to disclose all the limitations of claim 21. Thus, Applicants respectfully request the rejection be withdrawn.

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Based on the foregoing comments, the above-identified application is believed to be in condition for allowance, and such allowance is courteously solicited. If any further amendment is necessary to advance prosecution and place this case in allowable condition, the Examiner is courteously requested to contact the undersigned by fax or telephone at the number listed below.


Please charge any cost incurred in the filing of this Amendment, along with any other costs, to Deposit Account No. 06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No. 06-1505.

CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being sent via facsimile to the U.S. Patent and Trademark Office at (571) 273-8300 on December 6, 2005.


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